

CLAIMS

1. A nucleic acid molecule encoding a polypeptide having the enzymatic activity of a cellulase, selected from the group consisting of:

- 5 (a) nucleic acid molecules encoding a polypeptide comprising the amino acid sequence as depicted in Figure 19 or 21;
- (b) nucleic acid molecules encoding a polypeptide comprising the amino acid sequence as depicted in Figure 23 or 27;
- (c) nucleic acid molecules comprising the coding sequence of the nucleotide sequence as depicted in Figure 19 or 21;
- 10 (d) nucleic acid molecules comprising the coding sequence of the nucleotide sequence as depicted in Figure 23 or 27;
- (e) nucleic acid molecules encoding a polypeptide comprising the amino acid sequence encoded by the DNA insert contained in DSM 11024, DSM 11012, DSM 11025 or DSM 11014;
- 15 (f) nucleic acid molecules encoding a polypeptide comprising the amino acid sequence encoded by the DNA insert contained in DSM 11026, DSM 11011, DSM 11013 or DSM 11027;
- (g) nucleic acid molecules comprising the coding sequence of the DNA insert contained in DSM 11024, DSM 11012, DSM 11025 or DSM 11014;
- 20 (h) nucleic acid molecules comprising the coding sequence of the DNA insert contained in DSM 11026, DSM 11011, DSM 11013 or DSM 11027;
- (i) nucleic acid molecules hybridizing to a molecule of any one of (a), (c), (e) or (g); and
- 25 (j) nucleic acid molecules the coding sequence of which differs from the coding sequence of a nucleic acid molecule of any one of (a) to (i) due to the degeneracy of the genetic code.
- (k) nucleic acid molecules encoding a polypeptide having

cellulase activity and having an amino acid sequence which shows at least 80 % identity to a sequence as depicted in Figure 19, 21, 23 or 27.

2. The nucleic acid molecule of claim 1 which is RNA.
- 5 3. The nucleic acid molecule of claim 1 which is DNA.
4. The DNA of claim 3 which is genomic DNA or cDNA.
5. A vector containing a nucleic acid molecule of any one of claims 1 to 4.
6. The vector of claim 5, in which the nucleic acid molecule is operably linked to expression control sequences allowing expression in prokaryotic or
10 eukaryotic host cells.
7. A host cell transformed with a nucleic acid molecule of any one of claims 1 to 4 or with a vector of claim 5 or 6.
8. The host cell of claim 7 which belongs to filamentous fungi.
9. The host cell of claims 7 to 8 which belongs to the genus
15 *Trichoderma* or *Aspergillus*.
10. The host cell of claim 9 which is *Trichoderma reesei*.
11. A process for the production of a polypeptide having cellulase activity comprising the steps of culturing the host cell of any one of claims 7 to 10 and recovering the protein from the culture medium.
- 20 12. A polypeptide having cellulase activity encoded by a nucleic acid

molecule of any one of claims 1 to 4, a vector of claim 5 or 6 and obtainable by the process of claim 11.

13. An antibody specifically recognizing the polypeptide of claim 12.

14. An oligonucleotide specifically hybridizing to a nucleic acid molecule
5 of any one of claims 1 to 4.

15. A process for the preparation of an enzyme preparation comprising a polypeptide of claim 12 comprising the steps of culturing a host cell of any one of claims 7 to 10 and either recovering the polypeptide from the cells or separating the cells from the culture medium and obtaining the supernatant.

10 16. An enzyme preparation obtainable by the process of claim 15.

17. An enzyme preparation comprising at least one cellulase of a fungal species belonging to a fungal genus selected from the group consisting of *Melanocarpus*, *Myriococcum*, *Sporotrichum*, *Myceliophthora* or *Chaetomium*.

18. The enzyme preparation of claim 17, wherein the fungal species is
15 *Melanocarpus albomyces*, *Myriococcum albomyces*, *Myriococcum* sp. species represented by CBS 687.95, *Sporotrichum thermophile*, *Myceliophthora thermophila* or *Chaetomium thermophilum*.

19. The enzyme preparation of claim 17 or 18, wherein the fungus is
20 *Melanocarpus albomyces* or *Myriococcum albomyces* CBS 685.95, *Myriococcum* sp. CBS 687.95, *Sporotrichum thermophile* CBS 688.95 or *Myceliophthora thermophila* CBS 689.95 or *Chaetomium thermophilum* CBS 730.95.

20. The enzyme preparation of claims 16 to 19, which is liquid.

21. The enzyme preparation of any one of claims 16 to 19, which is dry.

22. A method for biostoning which comprises the step of adding the preparation of any one of claims 16 to 19 to cotton containing fabric or garments.

23. The method of claim 22, wherein the fabric or garments is denim.

5 24. A method for biofinishing, which comprises the step of adding the preparation of any one of claims 16 to 19 to textile materials like fabrics or garments or yarn.

10 25. The method of claim 24, wherein the textile materials are manufactured of natural cellulose containing fibers or manmade cellulose containing fibers or are mixtures thereof.

26. The method of claim 24, wherein the textile materials are blends of synthetic fibers and cellulose containing fibers.

27. A detergent composition comprising the enzyme preparation of claims 16 to 19 and a surface active agent or surfactant.

15 28. A method of treating cellulosic fiber containing textile material, wherein said method comprises mixing said textile material with the detergent composition of claim 27.

20 29. A method for treating wood-derived pulp or fiber, which comprises the step of adding the enzyme preparation of any one of claims 16 to 19 to wood-derived mechanical or chemical pulp or secondary fiber.

30. A method for improving the quality of animal feed, which comprises

treating plant material with the enzyme preparation of any one of claims 16 to 19.